

United States Patent Office.

THOMAS MILLS AND GEORGE M. MILLS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 81,665, dated September 1, 1868.

IMPROVED MACHINE FOR MAKING CANDY TOYS, &c.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, THOMAS MILLS and GEORGE M. MILLS, of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Making Candy Toys; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, and to the figures and letters of reference marked thereon.

Our invention relates to that class of machines in which candy figures are moulded, by passing the candy, in a pliant state, between a pair of geared rolls, in the faces of which are provided a coinciding series of dies or moulds, the rolls being relatively so adjusted as to leave a slight space intervening between their exterior flat surfaces, so that the candy impressions pass out of the rolls on the opposite side, all connected by a continuous film. In this state they are received upon metallic pans, until hard or "set," whereupon the figures are separated, and the thin films broken away by hand, to prepare the figures for sale.

This "thin" cannot be entirely removed without undue increase of cost of the articles, and the main object of our invention is to provide a means of preventing the formation of this film on the base or bottom end of such objects, which, according to their nature, should stand upright, as is the case with human figures, many animals, and a great variety of objects.

We thus reduce the labor required to separate the figures by avoiding the formation of the "thin" on the base, and, at the same time, produce a more perfect representation of the objects, thus making them more salable.

The nature of our invention consists in providing a pair of supplementary rolls, revolving on vertical axes, and rolling against opposite sides of the die-rollers at the point of contact.

On the faces of the die-rolls the moulds are so disposed that the bases of the figures are not formed within the die-rolls, but cut through the sides of the latter, and formed by the rolling contact of the vertical supplementary rollers, the circumferences of which advance at the same speed as that of the die-rolls.

Another feature of our improvement consists in providing a system of endless bands, hereafter fully described, for the purpose of carrying off the bands of impressions, and turning them from one side to the other, during the process of chilling or setting, without the need of handling them in this process.

In order that our said invention may be fully understood, we will now proceed more particularly to describe the same.

On reference to the drawing making part of this specification, and in which similar letters of reference allude to like parts throughout the several views—

Figure 1 is a side elevation of our improved machine.

Figure 2 is an end view,

Figure 3 a plan of the same, and

Figure 4 an enlarged sectional view of the four rolls, explaining fully the manner in which the "thin" is avoided on the bases of the figures by the use of side rolls.

A A are the two die-rolls. They are fitted to horizontal shafts, *a a*, which have their bearings in the uprights B B.

The side rolls, C C, are fitted with short vertical shafts, *b b*, and receive motion through pairs of bevel-wheels, D E, of such relative dimensions as to give a uniform speed to the faces of the four rolls.

The shafts *a a* of the die-rolls are, moreover, geared together by a pair of spur-wheels, F F, the whole receiving motion through means of a crank, G, on the upper horizontal shaft.

A slightly-inclined table, H, is provided on the front side of the machine. It serves to support the mass of candy previous to its passage through the rolls, and has two side guiding-pieces, *h h*, for confining the candy laterally, and feeding it properly to the rolls.

The moulds are so disposed on the rolls A A, that their bases are alternately cut through opposite sides of the die-rolls, the candy being at these points confined to the moulds by the side rolls C C, which produce a perfectly flat base, without any "thin" on each of the figures, in the manner fully shown at fig. 4.

Passing out at the rear end, the candy figures, connected by a film, of the width of the die-rolls, are received on an endless band, I, running over rollers J and K, and receiving a motion in proper direction and of suitable speed from one of the wheels F, through pinions L M.

A second endless band, N, is provided, underneath I, and driven from it in the opposite direction by means of a crossed band, O.

The candy figures pass along the top of the endless band I, which must be made of such length as to permit the candy to become somewhat "set" before arriving at its end, where it is turned, to allow the other side to chill, and may be received on long, narrow pans, placed on the lower endless band, N.

In these pans it is then allowed to stand until perfectly hardened, and in a condition for handling, to separate the figures and remove the "thin."

This manner of alternately chilling both sides of the candy, without the usual handling, aids greatly in preserving the shape and clearness of the candy figures.

The proportionate lengths of the bands I and N are necessarily much greater than those shown in the drawing, the shortest, I, being about six feet from centre to centre of rollers J K, in the full-size machine.

Having thus described the nature and object of our invention, what we claim as our invention, and desire to secure by Letters Patent, is—

The die-rolls A A, with the moulds disposed thereon as described, and operating in combination with the side rolls C C, substantially as and for the purpose specified.

We also claim, in combination with a pair of die-rolls, the described system of endless bands I and N, when arranged and operating in the manner and for the purpose set forth.

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Witnesses:

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